*REMARKS/ARGUMENTS*

*The Pending Claims*

Claims 11-15, 25, 27, 32-34, 66-68, and 70-72 are pending and are directed to a mutant *ras* peptide (claims 11-15 and 72), a mutant *ras* peptide-carrier molecule conjugate (claims 25, 66, and 67), an immunogen comprising the mutant *ras* peptide (claim 27), and a pharmaceutical composition comprising the mutant *ras* peptide (claims 32-34, 68, 70, and 71).

*Amendments to the Claims*

The claims have been amended to point out more particularly and claim more distinctly the invention. Claims 11, 12, and 15 have been amended to recite that $Xaa_2$ has been selected from the group consisting of valine, tryptophan, leucine, tyrosine, and phenylalanine, as recited in current claim 14, and as supported by the specification at, for example, page 47, lines 10-12. Claim 15 has been amended to recite that the peptide comprises $Xaa_1$, as recited in current claims 12-14, and as supported by original claims 10 and 11. No new matter has been added by way of these amendments to the claims.

*Summary of the Office Action*

The Office indicates that claims 25, 27, 32-34, 66-68, and 70-72 are allowed.

The Office rejects claims 11-15 under 35 U.S.C. § 112, first paragraph, for allegedly lacking written description.

The Office rejects claim 15 under 35 U.S.C. § 112, first paragraph, for allegedly lacking enablement.

Reconsideration of these rejections is hereby requested.

*Discussion of the Written Description Rejection*

The Office contends that the specification fails to describe a genus of truncated peptides as recited in claims 11-15. Applicants traverse this rejection for the following reasons.

The specification describes mutant *ras* peptides comprising 8 to 13 amino acids (see, e.g., page 10, lines 1-4). The mutant *ras* peptides contain a substitution at position 12 relative to normal *ras* (corresponding to $Xaa_3$ of SEQ ID NOs: 14 and 15) (see, e.g., page 10, lines 5-11). The mutant *ras* peptides can contain additional substitutions, such as at position 5 relative to normal *ras* (corresponding to $Xaa_1$ of SEQ ID NOs: 14 and 15) and/or position 7 relative to normal *ras* (corresponding to $Xaa_2$ of SEQ ID NOs: 14 and 15) (see, e.g., page 11, lines 5-9; page 20, lines 22-24; page 47, lines 10-12; as well as original claims 10-24).

In particular, the specification describes that the inventive peptides comprise a substitution of the glycine at position 12 of normal *ras* (corresponding to $Xaa_3$ of SEQ ID NOs: 14 and 15) with an amino acid selected from the group consisting of aspartic acid, valine, cysteine, alanine, arginine, and serine (see, e.g., page 5-11). The specification discloses that the inventive peptides can comprise a substitution of the lysine at position 5 of normal *ras* (corresponding to $Xaa_1$ of SEQ ID NOs: 14 and 15) with tyrosine (see, e.g., page 11, lines 6-7). Furthermore, the specification discloses that the inventive peptides can comprise a substitution of the valine at position 7 of normal *ras* (corresponding to $Xaa_2$ of SEQ ID NOs: 14 and 15) with an amino acid selected from the group consisting of tryptophan, leucine, tyrosine, and phenylalanine (see, e.g., page 47, lines 10-12).

In addition to the disclosure in the specification set forth above, the specification includes several examples of mutant *ras* peptides. For instance, the specification discloses that the inventive peptides include SEQ ID NOs: 2-6 or *portions or variants thereof* (see, e.g., page 10, line 16, through page 11, line 2). SEQ ID NOs: 2-6 are 9-13 amino acids in length and contain a substitution at position 12 relative to normal *ras* (corresponding to $Xaa_3$ of SEQ ID NOs: 14 and 15). While the peptides of SEQ ID NOs: 2-6 do not contain a substitution at positions 5 and 7 (corresponding to $Xaa_1$ and $Xaa_2$, respectively, of SEQ ID NOs: 14 and 15), the specification *expressly* teaches that variants include the substitution of lysine at position 5 relative to normal *ras* and/or a substitution of valine at position 7 relative to normal *ras* (see, e.g., page 11, lines 6-7; and page 47, lines 10-12). For example, the specification cites to SEQ ID NO: 11, which is a variant of SEQ ID NO: 3, wherein the lysine at position 5 relative to normal *ras* (i.e., position $Xaa_1$ of SEQ ID NO: 14 and 15) is substituted with tyrosine.

Additionally, the specification discloses that the inventive peptides include SEQ ID NOs: 10, 12, and 13 *or portions or variants thereof* (see, e.g., page 19, line 25, through page 20, line 18). SEQ ID NOs: 10, 12, and 13 contain a substitution at position 12 relative to normal *ras* (corresponding to $Xaa_3$ of SEQ ID NOs: 14 and 15). Although the Office points out that SEQ ID NOs: 10, 12, and 13 are 14 amino acids in length, which is longer than the 8 to 13 amino acids recited in the pending claims, the specification also discloses portions (fragments) of the sequences (see, e.g., page 19, line 25, through page 20, line 18). Additionally, the specification discloses variants of the sequences including a substitution of the lysine at position 5 relative to normal *ras* (corresponding to $Xaa_1$ of SEQ ID NOs: 14 and 15) and/or a substitution of valine at position 7 relative to normal *ras* (corresponding to $Xaa_2$ of SEQ ID NOs: 14 and 15) (see, e.g., page 20, lines 23-25; and page 47, lines 10-12).

Furthermore, the specification describes the identification of mutant *ras* peptide variants with substitutions at positions 5, 7, and 12 (corresponding to $Xaa_1$, $Xaa_2$, and $Xaa_3$, respectively, of SEQ ID NOs: 14 and 15) (see, e.g., page 46, line 24, through page 48, line 5). In particular, the specification describes that substitution of a tyrosine at position $Xaa_1$ or a tryptophan at position $Xaa_2$ in a *ras*5-14(Asp12) peptide led to increased binding activity to HLA-A2 on T2 cells relative to native peptide (see, e.g., page 47, lines 26-35).

Thus, the specification identifies the specific positions of the *ras* peptide that can be substituted, as well as the particular amino acids to be substituted in the identified positions. Accordingly, one of ordinary skill in the art would have recognized that Applicants had possession of the invention as defined by claims 11-15 at the time of filing the present application. For these reasons, Applicants request that the written description rejection be withdrawn.

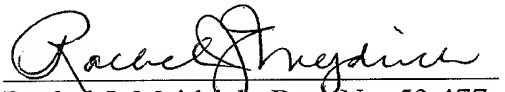
*Discussion of the Enablement Rejection*

The Office contends that the specification is not enabling for peptides that do not comprise a tyrosine anchor residue at position $Xaa_1$. Claim 15, as amended, recites that the peptide includes $Xaa_1$, wherein $Xaa_1$ is tyrosine. Applicants believe that the enablement rejection is moot in view of the amendment to claim 15, and request that the rejection be withdrawn.

*Conclusion*

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned agent.

Respectfully submitted,



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